

Installation and Operation Guide

For Models LCSxx rev b

Welcome

Thank you for purchasing your Leak Controller™, a Water Controller Products device. Your Leak Controller™ has been designed so it can be easily installed, operated, and maintained. Please read the following instructions carefully, as we want you to enjoy all of the benefits of your product.

Key Features

Features	Benefits
USA manufactured NSF™ approved ball valve with patent pending one-way spring release	Proven quality and reliability
Audio alarm and LED indicator	See and hear the controller functioning
LeakLogic™ RISC based software	Low battery power management, controller monitoring, water leak detection sensitivity
Quick-Connect plumbing connections	Fast installation without the need for a plumber for tubing connections
Sensor with in-series connection capability	Ability to connect as many sensors as needed to a single controller
Complete testing capability	Direct sensor testing
Multiple uses	Connect to many types of appliances and fixtures
Detachable Battery Holder	Ease in changing batteries in difficult to access locations
Separate 2 screw mounting plate	Mounts in difficult places in seconds without a template
Absorbent Sensor Mat	Increased moisture sensitivity

Limited Warranty

Water Controller Products Inc. (WCP) has carefully tested and inspected the Leak Controller™ before shipment, and hereby warrants our products to be free of defects in material and workmanship for a period of 1 year from the date of the original purchase. You should replace your controller every 5 years since it is in constant contact with your water supply.

During the warranty period WCP shall, at its sole and absolute discretion, either repair or replace free of charge any of our products that prove to be defective on inspection by WCP or its authorized service representative. This warranty does not cover claims for damage due to abuse, neglect, alteration, or attempted repair by unauthorized personnel, and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE AS SET FORTH IN THESE INSTRUCTIONS, ARE LIMITED IN DURATION TO THE LENGTH OF THIS LIMITED WARRANTY. USE OF THIS PRODUCT IS NOT A REPLACEMENT FOR YOUR INSURANCE POLICY. IN NO EVENT WILL WCP BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES RESULTING FROM THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING, AMONG OTHER THINGS, DAMAGE TO PROPERTY, DAMAGE BASED ON INCONVENIENCE OR ON LOSS OF THE USE OF THE PRODUCT, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THE LIABILITY OF WCP SHALL BE LIMITED TO REPLACEMENT OF THE DEFECTIVE PRODUCT.

This warranty only applies to products sold and used in North America. For warranty information in all other countries, please refer to your local distributor.

Getting Started

Package contents:

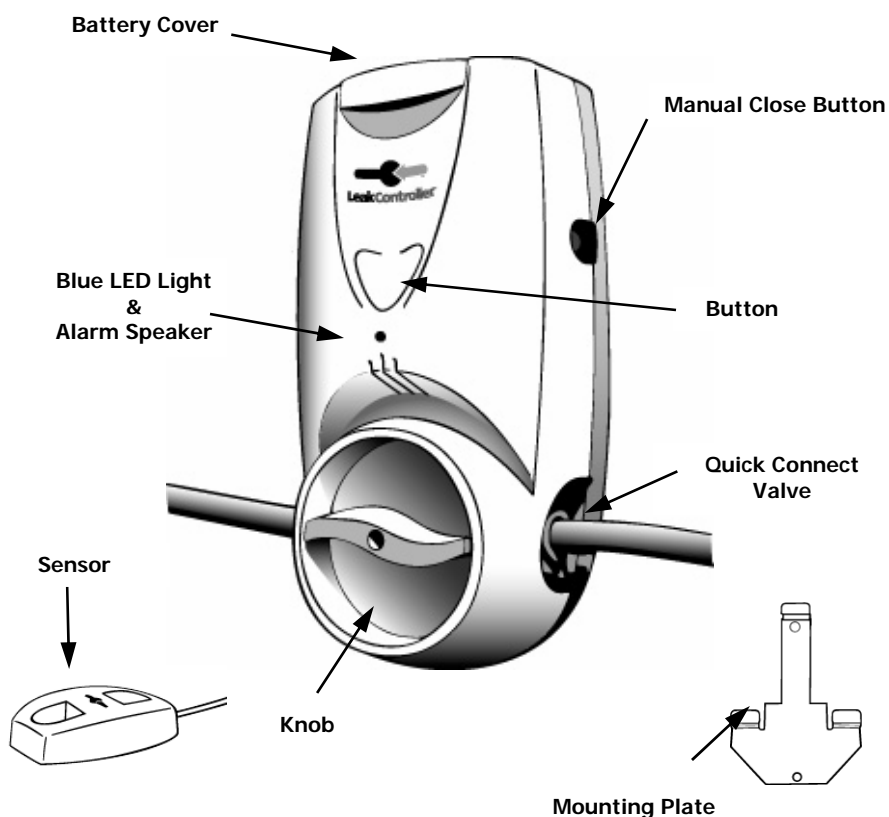
Main Leak Controller™ controller module with attached 4 1/2-foot sensor cable

4 “AA” size alkaline batteries

Metal Wall Mount Plate with 2 #8 mounting screws

1 sensor mat (paper towels OK for replacement)

* Additional sensors and cable lengths can be ordered



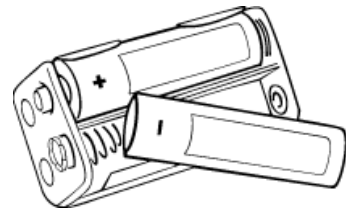
Precautions

- Use of the Leak Controller™ is restricted to water supply lines in a home, office or recreational vehicle.
- Do not allow small children to play with the controller, their fingers could get stuck or injured inside of the controller valve. Only insert a pipe, tube or a fitting of the proper size into the controller valve.
- Operate the unit only with “AA” size alkaline type batteries.
- Never open the cover to the controller, this will void the warranty and damage the product.
- The sensors can not having anything placed on top of them.
- Do not connect the controller to a hot water line; connect only to the cold water supply.

1 INSTALLATION Step 1: Inserting the Batteries

Open the battery door and remove the battery holder. Take this moment to record the installation date on the inside of the battery door, and on the space below:

Original Battery Installation Date: _____
Additional Battery Change Dates: _____



Gently disconnect the battery holder from the snap connector. Insert the 4 batteries into the battery holder slots, matching the positive (+) and negative (-) terminals. Gently reconnect the snap connector to the battery holder and insert the battery holder into the battery compartment and close the battery door.

* You should see the blue LED light flash three times, hear the speaker chirp 3 tones.

2 Step 2: Test the Controller

Open the valve by turning the front Knob (with the finger-fitting wave grips) ¼ turn clockwise to the green mark on the cover. Now the controller is open and loaded. Press the front button and the LED will light.

Put a coin into the sensor or put a small amount of water on the sensor. The valve will close sounding the alarm and flashing the LED 4 times continuously. Open the valve again by turning the front knob ¼ turn clockwise to the green mark on the cover and the system will reset and be ready for installation.

Now the controller is ready to be connected to your water supply and the controller is in the ready and armed state. The operation of the unit may be checked at any time by pressing the button and the LED will light to confirm the unit is working properly.

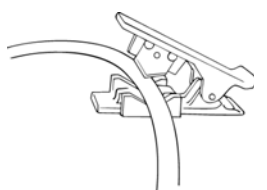


3 Step 3: Preparing the Water Source

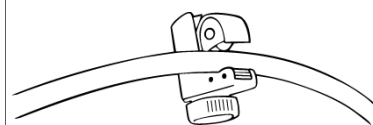
Turn the source water you will be connecting to off. Preferably, the controller will be installed as far upstream (closest to where the water is access from the main plumbing) as possible from the device you will be protecting, such as under the kitchen sink or behind an appliance. If you are going to cut an existing plumbing line, allow for an extra ¾” of tubing on each side of the controller valve as the valve requires ¾” of pipe or tubing to properly seal.

There are 2 ways to connect the controller to the water line that you want to protect depending on the type and material of the tubing:

a) Plastic Tubing. Measure the length of tubing needed, and then add at least one extra foot of tubing for both the incoming and outgoing lines; this allows you to easily reach the controller. Cut the tubing with a tube cutter, or very sharp razorblade. It is very important that the cut is clean and straight through to ensure a good connection into the quick-connect fittings.



b) Copper Tubing. Measure the length of tubing needed to easily reach the controller, you may want to use some extra tubing in the event that you have to service the appliance or controller, if this is the case, loop the extra tubing taking care that the tubing enters the valve correctly. Use a simple circular tube cutter (can be purchased from hardware store) to cut through the tubing in a straight cut. It is important that the cut is clean and straight through to ensure a good connection into the quick-connect fittings.



c) Braided tubing. Visit www.leakcontroller.com

Avoid sharp changes in direction when routing the tubing. It is very important to have the tubing inserted parallel to the valve, do not allow the tubing to exert any upward or downward force on the valve connection.

Quick Reference

- ◆ **The Leak Controller is beeping, how do I shut it off?**
- **The Leak Controller has activated due to one of the following:**
 1. **water touching the sensor (leak or spill) (4 flashes)**
 2. **low battery (2 flashes)**
 3. **maintenance mode (1 flash)**

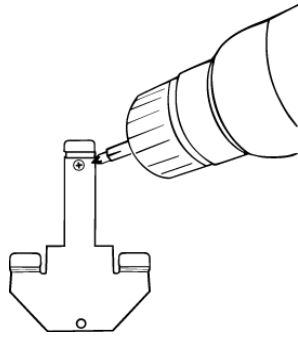
Check for leaks and fix if necessary. Dry sensor(s). Change the batteries if in doubt. Turn the knob clockwise until locked in position.

Now the Leak Controller is in normal open and ready position

4 Step 4: Mounting the Controller

Locate a clean, flat wall surface that is close and parallel to, the water source to which you will be connecting. Make sure there is at least a 3" clearance from the top of the controller to leave room to change the batteries in the future. Find a wall stud (if possible); align the mounting plate on the wall with the single tab arm pointing up, and the tabs of the plate facing outwards away from the wall.

Drill a hole using the mounting plate as a guide, and drive the two #8 screws into the mounting plates holes and into the wall. Use wall anchors or toggle bolts if the wall is hollow. Attach the top tab receptacle on the controller to the top tab on the mounting plate, and then insert the two bottom receptacles on the controller to the two bottom tabs on the mounting plate and pull down.



- The controller should be flush against the wall, resist movement, and be able to be connected to your piping.

5 Step 5: Attaching the Water Tubing

The valve in the controller is a ball type with two connection points that have quick-connect fittings. The valve is not directionally sensitive so you can insert the incoming water tube and the outgoing tube on either side for your convenience.

Follow the diagrams below for correct insertion, locking, and removal procedures. You may find it easier to insert the tubing into the controller by removing the controller from the mounting plate, if you do, you must remount the controller to the mounting plate when you are done.

Once you have correctly inserted the tubing into the controller valve, you can turn your water source back on. There should be no leaks at either side of the controller valve, at the water source connection, or at the connection to the appliance. **Check for leaks immediately at all locations.**

Generally, if there is a leak it will occur immediately, if this occurs or there is an moisture around the valve connections, then close the valve on the water source and repeat steps 3 & 5

①

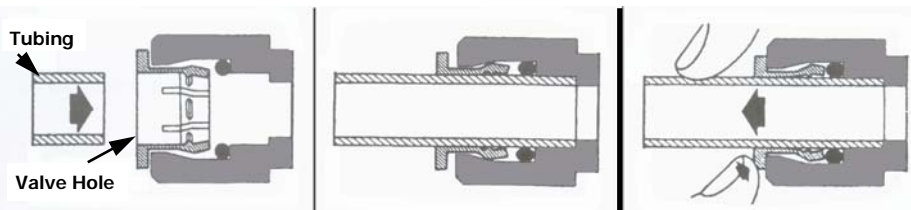
Push tube into valve hole. Inlet water may be inserted in either direction

②

Push tube again for a 2nd time for a "Lock" feeling. Tubing must be firmly inserted into the valve. (3/4" into valve)

③

Remove by turning off water to relieve pressure, pushing 1 Finger on Side Ring (Collet) while pulling the tube out with other hand at the same time



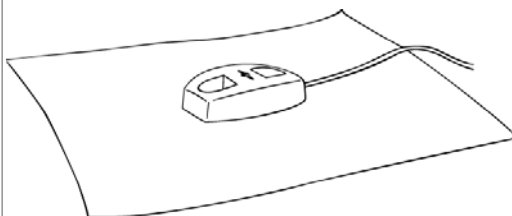
6 Step 6: Placing the Sensor

This is a very important part of the installation. The sensor is the heart of the controller, and if water doesn't touch the sensor it will not activate. Also, it is extremely important that the metal side of the sensor always remains facing down after the installation.

Once you have confirmed the sensor location, place the sensor mat in that area and then place the sensor on top of the mat. The sensor will work without the mat. The sensor mat is provided only to increase the area where water is drawn to the sensor. In those areas where it is not practical to lay the mat down, just place the sensor on a clean, flat surface.

Ordinary paper towels can be used as replacements for the sensor mat.

Every floor or seemingly flat surface has a slope to it, and as every location is different, care needs to be made at the placement of the sensor.



To confirm the path of the water in the event of a leak, take a plate or flat pie tin and place it near where the sensor will be placed. Pour some water onto the plate and check the direction of the flow. Adjust the sensor's position accordingly to this flow path to make sure in the event of the leak the water flows towards the sensor.

Additional sensors may be added to your system and may be purchased through our website. To connect a second sensor, push the connectors at the end of the second sensor cable onto the metal connectors located under the first sensor. Route the separate wires around the bottom part of the sensor and out the other end of the sensor.

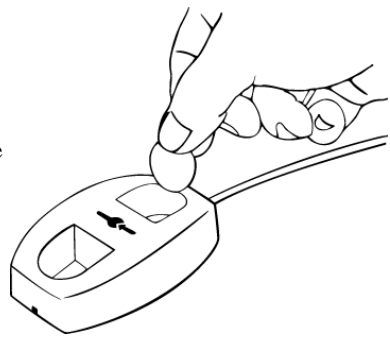
To confirm that the second sensor is working properly, insert a coin or screwdriver into the sensor slots, this should replicate a leak and activate the alarm feature on the controller. To reset the controller, see Step 7.

* Please note that for the sensors to work, the leak does not have to enter the slots on top of the sensors. This may happen, but the sensors also detect surface moisture via the sensor probes on the bottom of the sensor.

7 Step 7: Checking & Testing the Controller

There are two ways to check the system:

- Check the Controller (see Step 2).
- Testing at the Sensor. To test that your sensor and controller are working properly, insert a coin or screwdriver into the slot on the sensor. This replicates a leak condition, and the controller should close the valve to the red position, sound the alarm, and flash the LED.



To reset the system return the valve to the green position.

The controller should be tested **every month**, at the sensor(s) to confirm the system operation and to exercise the valve. Every month examine each sensor to confirm that it is laying metal side down on the sensor mat, and wipe the bottom of the sensor metal strips with a clean dry cloth.

Maintenance

Replace all four batteries with "AA" Alkaline type batteries:

- Annually (every year)**
- If the alarm has been sounding for a undetermined length of time
- If the low battery alarm chip is sounding (2 flash and 2 beep)

Since the controller is in constant contact with your water supply, **the maximum life expectancy of the controller is five years.** Although you may achieve longer use of the controller depending on the quality of your water source, we recommend that do not exceed this time period.

Service Reminder / Maintenance Mode

The controller may be set for a service reminder indication. This is done for a reminder to maintain the system or systems connected to the controller.

To Set: Press and hold the button for two LED flashes and manually close the valve with the side button release (at the same time) Keep holding the button until the unit is flashing and beeping once repeatedly (or the current reminder setting). Press the button to cycle through the service reminder stages:

- 1 flash and beep: Service Reminder Off
- 2 flashes and beeps: Service Reminder 6 months
- 3 flashes and beeps: Service Reminder 12 months
- 4 flashes and beeps: Service Reminder 18 months

When the unit is flashing the desired service reminder stage, open the valve (turn to green) for final stage set.

To reset or cancel the service reminder, enter service reminder mode (above) and change the

Operation

Automatic Operation

Other than the recommended maintenance outlined above, your Leak Controller™ will operate automatically. In the event that the sensors detect a leak, the controller will close the valve to the red position, and sound an alarm. Please consult either the operations / troubleshooting guide for the recommended course of action in the event of a leak, or see step #7.

Low Battery

An additional feature the controller has is a maintenance mode. This can be activated in one of two ways. First, if the circuitry detects a low power response from the batteries. In this case the system will shut down. and after 4 days of alarming—close the valve.

Manual Valve Close

The controller's valve can also be shut manually. To do this, push the manual close button located on the upper right side of the controller. This will release the latching mechanism and close the valve to the red position. To rearm the controller and open the valve, return the Knob to the green position.

Fold and place these instructions behind the mounted controller for convenient reference.

Specifications

Internal Ball Valve ¼ turn with safety collar	Power output: 6V
0-150 p.s.i. Pressure rating	Battery Life: 2 years (normal condition)
33° - 140°F (1°-60°C) Temperature rating	Weight: .90 lbs with batteries
Dual O-ring quick connect Mur-lok™ Fitting	Size: 6.75" (h) x 3.25" (w) x 2.5" (d)
Power: 4 x "AA" Alkaline Batteries	

Operations / Troubleshooting Guide

We have the following matrix to help you quickly identify the most common conditions that exist with your Leak Controller™. In the event that you are still having problems with your product after consulting this guide, please contact us so we can be of immediate assistance to you.

- * Please note that whenever the valve closes to the red position (except when testing), **you must do the following:**
 - Change the batteries as described in step #1.
 - Check and test the sensor and controller
 - Look for leaks, it is possible that you had a leak and it has dried

Operations / Troubleshooting Matrix

Condition	Knob Pointing	LED Light	Speaker	Sensor	Battery	Recommended Action
Normal/ Armed	Green	Off	Off	Dry	Good	TEST and examine sensor(s) when needed (at least monthly) Press button to confirm unit in operation.
LEAK	Red	4 Flashing (b)	On (b)	Wet or Dry	Good	Examine the Sensor(s), Fix the leak, dry sensor(s), change mat, turn knob to green, change batteries.
Low Battery Mode #1	Green or Red (after 3 days beeping)	Flashing or Off (a) 2 Flashes	On or Off (a) 2 Beeps	Dry	Bad	Examine the Sensor(s), hold button until LED light stays solid to stop alarm, turn knob to green, change batteries, then Test (Step #2)
Low Battery Mode #2 Valve did not shut	Green	Flashing or Off (a) 8 Flashes	On or Off (a) 8 Beeps	Dry	Bad	Battery has gone into final shut-down mode as the batteries are almost dead. The valve should close but this 8 flash mode indicates the valve fail to close due to weak battery
Maintenance / Service Reminder	Green	1 Flash every 3 seconds	On or Off (a) 1 Beep	Dry	Good or Bad	The unit has been programmed for maintenance mode. Reset by holding the button while manually shutting the valve (side button) Open the valve to reset. (Set OPERATION (above))

(a) The LED may not be working due to the batteries dying. Any alarm mode the controller will flash and beep until the system is reset or until the battery dies.

(b) On LEAK condition, the controller will continually flash and beep 4 times together until it is silenced by pressing the Button. The LED will continue to flash until the valve is opened and the sensor is dry.

ALWAYS CHECK THE SENSOR(S)